APPENDIX A

COMPLEX
COLLABORATION

HelloBrain Enterprise Platform

connect
with the best

collaborate
in context

capitalize[TM]
on the results

Table of Contents

2

Business Drivers for Complex Collaboration

From high-tech to life sciences, companies are grappling with greater complexity of organization. Product attributes are multiplying; project members are growing more dispersed; processes are becoming more difficult to manage and synchronize. This spike in complexity - the accretion of product, people and process - is the quintessential challenge of an information-driven economy.

Product

Decades of technological advances in engineering and manufacturing have placed us on a trajectory towards increasing complexity in product design and development. Across numerous industries, products are becoming progressively more sophisticated, composed of myriad parts, intricate design and complicated assembly. As the attributes that define today's products grow increasingly complex, the need to manage information and knowledge about those products becomes palpable.

People

On the supplier front, trends in outsourcing have recast the players involved in product development to include outside suppliers, component vendors and business partners. With a network of new players now needing to work in concert, companies need to synchronize communications, processes, and data across an extended enterprise. Meanwhile, opportunities for delays, error, or miscommunications rise geometrically with the number of required participants.

Process

In management, companies require increasingly complex business processes to maintain operations and manage supply chain relationships. Trends in globalization, outsourcing, and mergers & acquisitions only compound an already trying situation. Companies must gain better control over their own fragmented processes, provide greater management visibility, and enable the synchronization of business processes across divisional and corporate boundaries.

HelloBrain has introduced a Complex Collaboration platform to help businesses manage and build competitive advantage out of complexity.

3

Introduction

Collaboration platform for the extended enterprise

The HelloBrain platform streamlines the complex project- and proposal-based processes that demand continuous collaboration among a company's employees, suppliers and customers. Designed for the extended enterprise and architected for a globally dispersed, heterogeneous environment, the platform enables seamless content and process collaboration.

3rd-generation, field-proven enterprise platform

The enterprise platform is the culmination of technology that HelloBrain has been using and developing since its inception in 1999. Having powered global private exchanges for Intel, Synopsys, Altera, Documentum, Atmel, and Insight Electronics, this third-generation, field-proven platform is now available to enterprises looking to leverage the Internet and collaboration technologies to establish and manage complex, extended relationships for outsourced products and services.

As Global 3,500 firms look to improve time-to-market and reduce operating costs in the next two years, 72% of them see supplier collaboration as critical to their success.

Forrester Research, Inc.
March 2001

The Four Core Elements of Complex Collaboration

Designed to support a wide range of solutions for complex collaboration, this application framework is a unifying technology platform that seamlessly links together four key areas of functionality critical to managing projects and processes across an extended enterprise. The platform integrates a project framework with process management, knowledge management and a collaboration toolset. By interweaving these core elements, the platform gives context to knowledge, standardizes process across projects, and turns interaction into teamwork.

4

Project Framework

Project Framework provides a standard platform for originating or submitting projects, and soliciting proposals or solutions from internal and external suppliers/experts.

Overview

Project leaders can build project teams (or workgroups) and select candidate external suppliers for project bidding. The project team can collaborate on the specification of projects and definition of RFP/RFQs; evaluate and compare supplier proposals; submit and evaluate change requests. Managers can maintain supplier lists, control and enforce an Approved Vendor List (AVL) or Preferred Vendor List (PVL), create, save, and reuse project templates.

Create structured project attributes that guide the initialization of a project.

Project Workspace

Project Workspace is a shared online workspace for project-oriented activities, where project teams can coalesce, share work and collaboratively move through a project. Teams can share and manage all project information including RFPs, proposals, Change Request/Orders, timetables, milestones, tasks, documents, deliverables, and discussions.
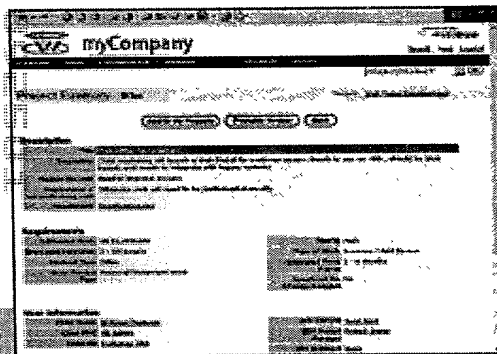
- ◆ **Designate work areas as public or private for controlled access.**
- ◆ **Build project teams by inviting, assigning or approving project membership.**
- ◆ **Leverage project templates for rapid project creation.**
- ◆ **Automatically archive all project-related content.** With proper permissions, access previous project information.

Sourcing Automation

RFP/RFQ Definition & Submission allows project teams to collaborate on the definition of structured or unstructured project requests. As a team, refine RFP/RFQ questions and vendor selection criteria.

- ◆ **As a project leader - draft, import or save an RFP/RFQ.**
- ◆ **As a project team - review, edit and discuss an RFP/RFQ.**
- ◆ **As a manager - approve, reject, or edit an RFP/RFQ.**
- ◆ **Select candidate vendors for project bidding from matched or approved vendor lists. Publish and distribute RFP/RFQ.**
- ◆ **As a supplier - receive notification of proposal request via any of several mechanisms including email.**

5

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Proposal Evaluation Support

Proposal Evaluation Support allows the project team to review, compare, and select among proposals submitted in response to a request.

◆ **Compile RFP/RFQ responses for vendor selection process.**

◆ **View detailed side-by-side comparison tables of all proposals.**

◆ **Sort, hide, and shortlist the suppliers before accepting or rejecting the proposals.**

◆ **Request proposal clarification or refinement.**

◆ **Enter into public or private Q&A discussions with suppliers for proposal clarification.**

Supplier Management

Supplier Management (Approved Vendor List) provides a comprehensive store for Approved Vendor Lists (AVL) and Preferred Vendor Lists (PVL) including vendor profiles, credentials, and activity reports.

◆ **Register and manage approved or preferred vendors (transfer vendor data from third-party system).**

◆ **Manage and control detailed information about suppliers including past performance indicators.**

◆ **Research key vendor statistics and activity history.**

◆ **Run summary or detailed reports on each supplier (with the ability to export data to Excel or other application).**

Templates Library

Templates Library acts as a repository for project and RFP/RFQ templates.

◆ **Access Project templates to automatically build a project, according to a previously defined structure. Templates allow for inheritance of business rules, project phases, security policies, and/or membership.**

◆ **Access RFP/RFQ templates for structured and unstructured content in building a Proposal Requests.**

◆ **Store and impose enterprise-wide or domain-specific templates for controlled Project/RFP creation.**
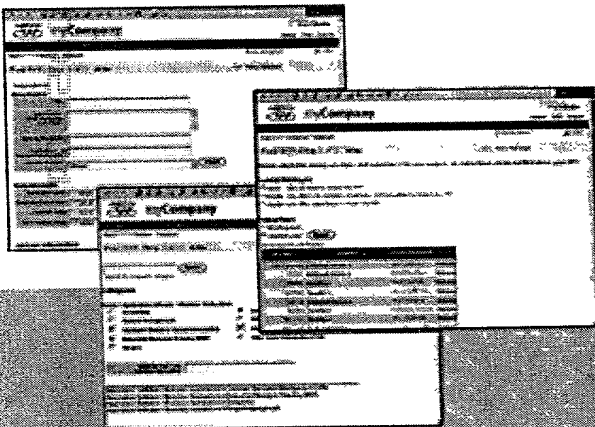
Leverage the configurable RFP wizard to define and submit RFPs.

6

Project Framework

Supplier/Expert Matching

Inference Engine is a mechanism for supplier/expert discovery, as well as a taxonomy system for supplier/expert classification. Other supplier management systems simply allow users to select among known recipients for a RFP/RFQ. The HelloBrain inference engine goes further by also matching and recommending suppliers or other users for each project, providing users with a way to tap into new suppliers or resident expertise (within their own company).

◆ **Discover new suppliers or internal users with the appropriate expertise.**

◆ **Create and manage hierarchical classification systems (taxonomies) for better defining suppliers, experts, projects and products.**

Change Request/Change Management

Change Request/Order Management allows project owners to submit a request for a change to a project

◆ **Submit Change Requests for approval/acceptance or impact proposal.**

◆ **Build Change Requests from original project/proposal definition. Simply open, edit and submit changes to original project/proposal as a shortcut CR/CO process.**

> **61% of high-tech firms identified functional silos in their companies-preventing internal groups from working with one another, let alone with third parties.**
>
> Forrester Research, Inc.
> January 2001

Process Management

Process Management facilitates and automates complex business processes within and beyond the enterprise, providing a facility for task management

Overview

The Process Management capabilities of the platform are focused on the real-time, ongoing management of collaborative projects. From within the context of a "project dashboard," they provide routing and approvals workflow, notifications and alerts, project and performance tracking. Participants in a project each have role-specific access to these various process management capabilities. Administrators can register or import user names and profiles, assign roles and privileges.

ProcessFlow

Process Workflow allows a project owner to define the detailed workflow and phases of a project to include timetables, responsibilities, milestones/deadlines.

◆ **Define the phases of a given project.**

◆ **Create tasks and assign task ownership.**

◆ **Define actions, events, and alerts.**

◆ **Define the project calendar: timetables, milestones/deadlines, and status codes.**

◆ **Use or create process templates unique to the enterprise or business unit.**

◆ **Monitor the list of expected deliverables, dates and milestones.**

Routing & Approvals

Routing & Approvals allows businesses to establish and execute project- and workflow-based approval procedures, including the review and acceptance of work.

◆ **Employ project approvals, including project (RFP) review, approval, and promotion.**

◆ **Employ workflow approvals, including event handling and phases, task and deliverables acceptance.**

◆ **Accept/reject project membership and assignment.**

◆ **Accept/reject proposals and change requests.**

Percent of 50 Fortune 1,000 companies interviewed.

Six 6%
Four 32%
Two 4%
Three 20%
Five 12%
Seven or more 26%
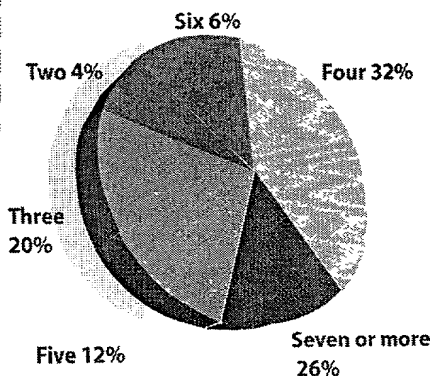
Source: Forester Research, 2001

Collaboration Imperative
Product Development is cross-functional and increasingly cross-enterprise. In a survey of managers from Fortune 1000 companies, more than 3/4 of respondents indicated that at least four departments participated in a typical development project.

8

Process Management

Notifications & Alerts

Notifications & Alerts provides for event-based system messaging (and forwarding to email). The "out-of-box" system includes several dozen pre-defined notification event types.

◆ **Receive notifications (1) when documents change or are added to a repository, (2) when a milestone has passed, (3) when proposals or project requests are received, sent, or even viewed, (4) when you are invited to an online meeting, (5) when approvals are needed, (6) when you have been assigned or invited to a project, (7) and many, many more.**

◆ **Customize Notifications templates and messages.**

◆ **Configure Notification events, alert types, and recipient lists.**

◆ **Turn notifications off. Forward to email (SMTP) and/or instant message.**

Project Tracking Dashboard

Project Tracking Dashboard is a management console that provides the business user with the ability to monitor and track processes/tasks, spot potential bottlenecks before they occur, and act on them.

◆ **Monitor and track events in real-time using an executive dashboard view. Get up-to-the-minute information on the progress of any project.**

◆ **Update the status of the project and enable warning signals for problems.**

◆ **Review the full history of any given project.**

◆ **Engage in immediate corrective action - changing the project team; altering the list of tasks and deliverables; approving or rejecting tasks, deliverables and budgets; modifying the process flow and/or project phases.**
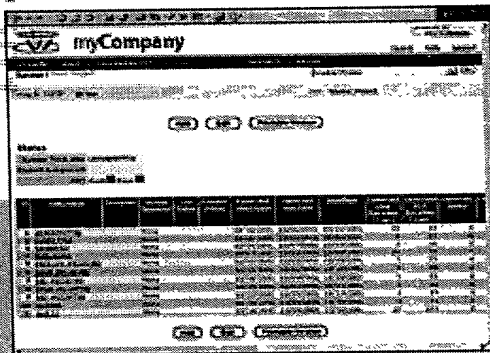
Monitor and track events in real-time within the "Project Tracking Dashboard"

9

Process Management

User Profiles & Roles Management

User Profiles & Roles Management enables businesses to manage users of the application, maintain detailed profiles, track activity and key statistics, as well as manage user security policies.

◆ Register and manage users of the system (transfer user data from third-party system).

◆ Maintain and control detailed profiles on each user of the system.

◆ Research users' key statistics and activity history.

◆ With appropriate security privileges, run summary or detailed reports on users.

◆ Administer roles and privileges for users or groups of users.

◆ Restrict access or functional capabilities within the system according to company, domain/workgroup, business role or specific individual.

◆ Define new roles and assign security policies.
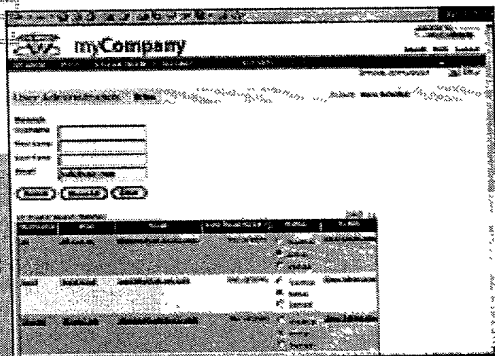
Manage users of the system and maintain sophisticated access controls.

10

Knowledge Management

Knowledge Management encompasses a rich set of centralized services for the capture and dissemination of information. Where traditional knowledge management systems are constrained by static, overly rational views of knowledge with manual mechanisms for knowledge accumulation, the HelloBrain platform facilitates a "knowledge ecology" - the synthesis of data, content and context. More than simply enabling knowledge access, the enterprise platform enables contextual knowledge capture.

Overview

The Knowledge Management element addresses one of the most challenging problems in complex outsourcing - the management of pre-existing and newly-created knowledge. To avoid expensive duplication of effort, existing internal and external solutions must be quickly "discovered" by participants. Documents and other tangible work product must be controlled and archived. Processes and progress must be memorialized. The Knowledge Management functionality specifically provides context-based archiving, automatic archiving of meeting transcripts, discussions and collaboration sessions, document versioning and archival, project reporting (ad hoc and formalized), a repository for "intellectual capital" (an archive of products and solutions), and extensive category-based search and browse capabilities to enhance the discovery process.

DocumentManagement

Document Vaulting is a system for collecting and managing files and documents in a central repository (in the context of a project) where they can be easily located or published.

◆ **Share documents (or any other type of file) in a central, Web-based repository. All document types are supported.**

◆ **Manage documents/files with source control functionality, such as versioning and check-in/check-out.**

◆ **Receive notifications when documents change or are added to a repository.**

◆ **Control access through detailed role- and user-based access controls.**

11

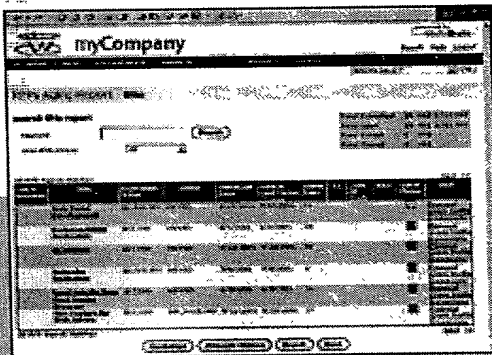# Knowledge Management

Ad Hoc and Summary Reports

Reporting provides access to detailed, real-time reports on project, product, company and individual user activity using simple, Web-based tools.

◆ Run ad hoc queries to view detailed data on projects, product, companies and individuals. Dynamically manipulate data.

◆ Apply filters to extract specific records.

◆ View Summary Reports - predefined statistics for projects, products, companies and individuals.

◆ Create print-ready reports.

◆ Export data to Excel or text file.

◆ Determine who can view each report by establishing permissions.

Contextual Archiving

Archiving Framework enables an enterprise to more effectively leverage its own experience and expertise by facilitating knowledge re-use. Additionally, all negotiations and collaboration are fully archived and project activities may be tracked in detail, providing full accountability and visibility of problems.

◆ Record and store the process, communications and content of every project in a highly structured, taxonomy-enabled archival system.

◆ Auto-archive meeting transcripts, discussion and collaboration sessions.

◆ Leverage organizational expertise acquired through historical experience in supplier selection. Empirical data (including interactive discussions, bids, proposals, supplier credentialing) produces a primary source of research.

◆ Maintain supplier audit trails - documented records of negotiations, decisions, and delivery agreements between parties.

Predefine "Summary Reports" to automatically display customized, real-time system information.

12

Knowledge Management

Intellectual Capital Inventory

Product/Solutions Repository acts as a centralized category-based inventory of an organization's intellectual capital - including, but not limited to, those products or solutions managed by the application.

◆ Discover existing products/solutions inside your company through dozens of query options.

◆ Examine previous product designs and/or learn from existing work.

◆ Post existing products or solutions, which may be searched by other users.

Search & Browse (Category-Based)

Search Engine provides the ability to search for and retrieve detailed information on projects, products, companies and users.

◆ Conduct searches based on keywords, categories, text in title, and full text indexing.

◆ Browse through a hierarchical listing of categories for projects, products and experts.

◆ Conduct searches with advanced capabilities including boolean and wildcard searches, exact phrase matching, and keyword stemming.

◆ Sort the results of searched to easily find what you're looking for.

◆ Configure search panels to display customized columns for search results. (Search results data can be withheld based on user's security level.)
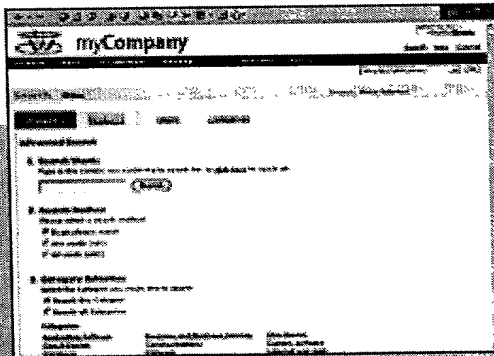
Conduct searches for projects, products, users and companies with advanced searching capabilities.

13

The Collaboration Suite is an integrated toolset of asynchronous and synchronous collaboration systems that provide an infrastructure for intra- or inter-company team collaboration.

Overview

The Collaboration Suite supports real-time communications amongst the distributed members of a project team. Team members may hold online meetings, and utilize live peer-to-peer communication mechanisms such as instant messaging, desktop and application sharing, a virtual whiteboard, document sharing and markup, and group chat. Distributed teams may collaboratively develop, test, and negotiate online - regardless of differences in local operating systems or applications. Users can share and markup designs or code in real-time even when they work on different operating systems.

The suite also supports more traditional asynchronous communication mechanisms such as system-based messaging with email integration and threaded discussions boards. All collaborations may be fully archived. Online meetings, for example, are archived as XML documents to include meeting transcripts, viewed and marked-up document/images, a record of meeting attendees, and a log of all applications opened and files accessed.
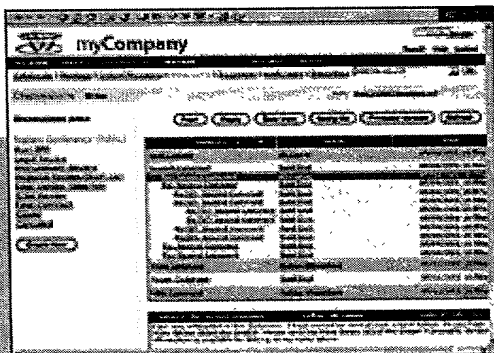
Message Boards

Threaded Discussions allow project teams to create and manage topic-specific or project-specific message boards.

◆ **View message threads and message bodies through a single-page interface for easy navigation and superior usability.**

◆ **View posted messages within a discussion in a threaded or dated view.**

◆ **Sort by column headers or message threads.**

◆ **Create print-ready views of all messages in a discussion.**

◆ **Attach documents to messages.**

◆ **Control access by designating security policies.**

Notify Users

System-Based Messaging allows project members to send each other messages within the application. Users may have messages (as well as any other type of notification, forwarded to private email accounts).

◆ **Send member-to-member messages.**

◆ **Send messages to a predefined project team.**

Create and manage topic-specific or project-specific message boards for archived online discussion.

14

Email Integration

Email Integration enables users to not only receive the complete content of an individual message board posting in their email, but to reply to discussion messages directly from their email client. Email responses are automatically threaded within the appropriate message board.

◆ **Archive email responses as discussions**

◆ **Activate and deactivate the feature, subscribing to specific message boards.**

> **70% of Fortune 1000 companies are or expect to be using WEB CONFERENCING technology in 2001.**
>
> Forrester Research, Inc.
> March 2001

Desktop Sharing

Desktop Sharing enables users to share control or view of their operating system desktop with other users. Utilizes HTTP Tunneling technology, which allows users to transmit information from behind one firewall into another.

◆ **Share view or control of anything on your PC system.**

◆ **Take control of another user's PC and instantly provide live assistance, co-develop and resolve problems immediately.**

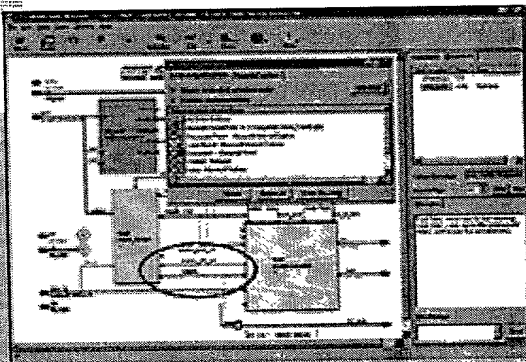◆ **Co-Browse the Web together and markup Web pages by sharing a browser view.**

Application Sharing

Application Sharing enables users to share control or view of a specific application with other users. This peer-to-peer technology allows users to collaborate on development and testing, regardless of differences in operating systems or applications.

◆ **Share control of any software application with others in a collaboration session.**

◆ **Demonstrate software live.**

◆ **Deliver an online presentation to a distributed project team.**

Share control of any software application or any document to facilitate rapid online design collaboration.

15

Document Sharing & Mark-up

Document Sharing & Mark-up supports sharing and mark-up of drawing, designs and code for all native systems. The feature loads an "image" of a document (so that users are not required to have the associated application installed to view the document or file). This feature also provides editing tools so users can draw and annotate a document.

◆ **View and edit any document or graphic with high resolution, multi-level zooming and annotation capabilities.**

◆ **View any printable document or file, with full image, font and color integrity.**

Virtual Whiteboard

Whiteboard provides a blank area where users can use drawing tools to create diagrams and make comments.

◆ **Draw pictures and write text to illustrate ideas.**

◆ **Enable simultaneous markup (with member color designation) or lock down the contents of the whiteboard so that only you can write on it.**

◆ **Utilize advanced drawing tools and multi-level zooming.**

Instant Messaging

Instant Messaging (IM) allows project team members to send notes back and forth while online. Using IM, users can communicate efficiently and in real-time with colleagues and suppliers.

◆ **See who else is currently connected, and then send them instant text messages.**

◆ **Engage in one-to-one conversations with other team members.**

◆ **Login and access member list straight from your desktop, without having to visit project Web site.**

Group Chat

Group Chat provides sharing of text with all other users during an online meeting.

◆ **Have conversations with groups of users during an online meeting.**

◆ **Easily distinguish individuals through color-coded messaging.**

◆ **Employ auto-archiving for future reference.**

16

How critical is Collaborative Commerce to your business in the next 12 months?

Not Important 14%
Very Important 26%
Important 31%
Somewhat Important 29%
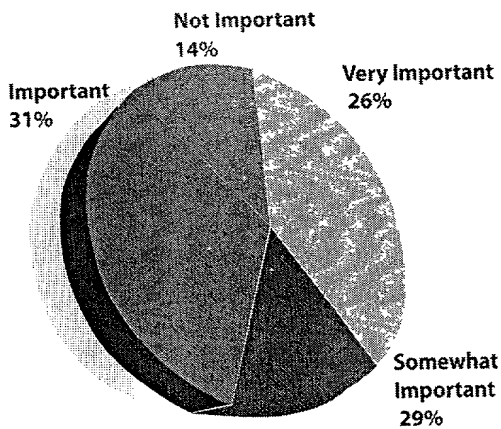
Deloitte Research, 2001

Collaboration Emergence
From design collaboration to supplier management, 86% of respondents from a cross-section of industries said that Collaborative Commerce would be somewhat to very important to their businesses over the next 12 months.

Personalization & Security

The platform was designed to manage the complex business relationships of the extended enterprise and boasts a sophisticated security schema with role-based access controls and personalized application views.

Access Controls

Access Controls (or Privilege Administration) allows administrators to edit privileges and the roles associated with each privilege. Privileges are used within the application to give users the ability to perform restricted functions or view restricted information. While privileges are a fundamental part of the base application, administrators have the ability to rename them, modify descriptions, hide privileges that are not relevant to a particular implementation, and grant privileges to roles, companies, domains/workgroups or specific individuals.

myHome

Personal Portal (myHome) provides summary information on projects, products, and accounts. Following login, the user enters a personalized portal page where (s)he can view snapshots of relevant activity in the general system. The portal page greets users and provides them with a way to easily access and stay up-to-date on projects that they are involved in. "Dashboard views" within the portal page provide snapshots of open projects, subscribed projects, messages and notifications. With these "dashboard views," the personalized portal pages allows for quick status reference, executive overview of project activity, and may serve as a starting point from which the user can engage in sourcing management. The dashboard views are configured and available to the user based on permissions and roles.

17

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Subscription/Referral Engine

Subscription/Referral Engine is a system that allows users to voluntarily "subscribe" to projects and to receive notifications and updates. Project owners may also manage subscriber lists and determine who is notified about project events and who can access specific project information. Project Owners may also (with proper permissions) designate subscriptions to project events or register subscribers at any point.

Role-Based Views

Role-Based Views enables every user of the system to experience it as a unique user – with personalized views, information, and functionality set according to individual, role, domain/workgroup, or company privileges. Role-based views ensure relevance of information and personalization of application views.

Security & Encryption

SSL & Digital Certificates provide industry-standard security. All sensitive information is transmitted over HTTPS with the SSL (Secure Sockets Layer) Protocol to ensure data privacy and integrity. 512-bit encryption certificates from VeriSign® may be used for hosted deployments.

18

# Configuration & Implementation

It's no coincidence the words "customize" and "customer" share the same root. Yet, enterprise software typically forces a business to form to its unique structure and method of handling business processes. Enterprise software should adapt to the customer - not the other way around. The HelloBrain platform was designed to form to the exception-laden business processes that are unique to each enterprise.

Overview

HelloBrain's unique platform approach provides a powerful solution that combines a comprehensive set of capabilities common to each of the applications with a high degree of configurability for each specific application solution. The flexibility of the platform enables buyer organizations to easily address different business unit requirements across different types of services purchasing, while providing consistent visibility to information and common policies and financial controls at a corporate or divisional level.

19

Configuration & Implementation
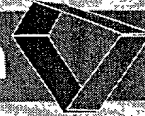
Configurable

Configuration

Architected to be highly adaptable to unique business conditions, the framework supports detailed configuration through Web-based configuration editors. Certain editors are designed for user-level administration, including the ability to control notification settings, personal profiles, project subscriptions, portal presentation, etc. Other configuration editors are designed for system administrators or managers. These tools allow administrators to edit notification templates, change notification events, set or change application terminology, define summary reports, configure fields for ad hoc reports, change security settings, add/manage users, add/manage companies, create/modify project templates, set requirements for approvals, and many more functions.

Rapid Deployment

Implementation Tools

With over a dozen unique implementation tools supporting initial configuration and customer implementation, HelloBrain can speed deployment of its applications while ensuring a custom-tailored enterprise fit. Implementation tools assist in implementing security policies, defining company domains and roles, and establishing archival settings. Additionally, these tools allow the systems implementer to define presentation, table headers, category schemas, form fields, search criterion, business rules, process templates, and many more settings.
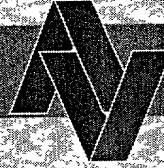
Help Database

Online Help Documentation

The platform features a comprehensive help database with detailed step-by-step instructions, descriptions of features, FAQs, and term definitions. Help documentation is context-sensitive, accessible in PDF format and fully searchable.

20

Architecture & Integration

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The HelloBrain enterprise platform was designed for mission-critical applications, meeting the most demanding requirements for performance, reliability and scalability. The component-based architecture and database structure provides a robust and extensible infrastructure for global deployments.

Overview

The enterprise platform is based on an n-tier, component-based architecture. The presentation layer resides on Microsoft Windows® 2000-based servers with Microsoft® Internet Information Services (IIS) and uses Active Server Pages (ASP), Extensible Markup Language (XML) and XSL transforms, and Component Object Model (COM) components in the HelloBrain application environment. The data layer segregates structured and unstructured data, using SQL Server 2000 as the native RDBMS.

Interfaces & Interoperability

HelloBrain enables rapid and efficient systems integration through standards-based interfaces. In order to support custom development and customization, and to facilitate rapid integration with customer systems, the enterprise platform provides object-oriented application programming interfaces (APIs) within the COM+ framework. Published APIs include detailed instructions for accessing methods and data within a comprehensive set of documentation. HelloBrain enables interoperability with customer systems through the use of Web Services technology. The platform's functionality can be exposed through XML/SOAP interfaces to the presentation layer. URL-addressable components would provide data access and application services to customer systems - from across the Internet or from within a Local Area Network (LAN). The use of ubiquitous Web protocols and data formats such as HTTP, XML, and SOAP enables rapid and platform-agnostic systems integration.

21

Architecture & Integration
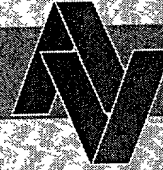
Standards Support

HelloBrain is committed to using industry standards and current technologies wherever possible to provide our customers with an open and flexible architecture. Some of the industries that the platform supports include:

- HTTP/HTTPS for client-server communications Object-oriented APIs (COM+) for integration
- XML-based APIs (SOAP) for interoperability
- Cross-browser support (Netscape and Internet Explorer)
- Leading industry security technologies: SSL, RSA, VeriSign® Digital Certificates
- SMTP mail protocol for email integration
- XML, XSLT, and CSS for state-of-the-art customization

Scalability & Reliability

The platform has been designed to meet enterprise-level application performance criteria. With an extensible component-based architecture, the platform satisfies even the most demanding scalability requirements. The enterprise platform is based on the n-tier logical architecture recommended for Microsoft® platform-based solutions, which provides for high availability, load balancing, and full backup and recovery.

22

United States Patent & Trademark Office
Office of Initial Patent Examination -- Scanning Division
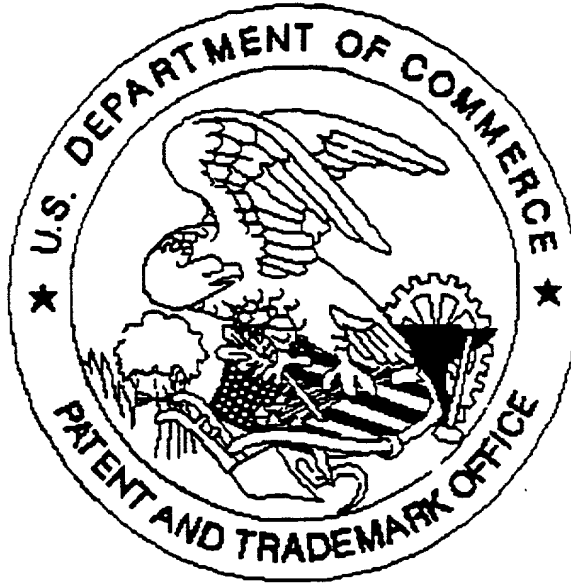
Application deficiencies found during scanning:

☐ Page(s)_____ of_____ were not present
for scanning.   (Document title)

☐ Page(s)_____ of_____ were not present
for scanning.   (Document title)

Scanned copy is best available. DRawings & Appendix are dark.